

Aratu Port - Bahia

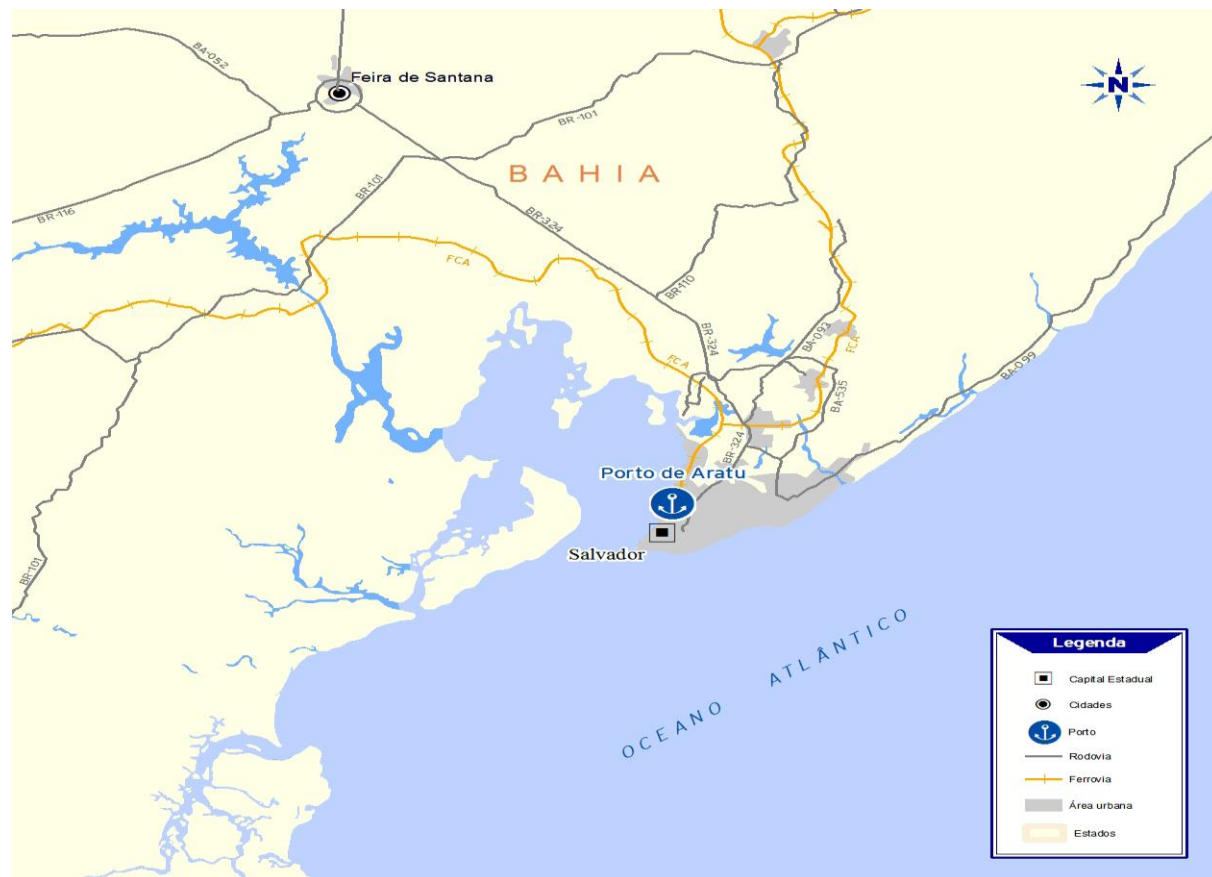
1 - Introduction

Aratu Port started its operations in 1975, offering logistic infrastructure to industries that were establishing themselves in the state of Bahia. In 2011 Aratú Port was responsible for about 60% of all marine cargo in the state of Bahia, handling the products to Camaçari Petrochemical Complex, Aratu Industrial Center (CIA) and the Ford Complex of Camaçari in addition to being responsible for the development of mining in Bahia.

2 – Location and Management:

- It is located in the Baía de Todos os Santos, in the Caboto bay, near the entrance of Cotegipe canal, opposite the east coast of the island of Maré, in the municipality of Candeias, 50 km from the center of Salvador. Its coordinates are latitude $-12^{\circ} 47'00''$ S, longitude $-13^{\circ} 30'00''$ W.
- The port is managed by Companhia das Docas do Estado da Bahia (Codeba)

F1- Location of Aratu Port



F2- View of Solid, Liquid and Gas Bulk Terminals



3 – Access to Port:

- **Road:** federal highway BR-324, encompassing BR-101, BR-110 e BR-116.
- **Railway:** through Ferrovia Centro Atlântica S/A,
- **Maritime:** It is located in Baía de Todos os Santos, presenting a width of 9 km and minimum water depth of 30 m. The access canal is approximately 3.7 km long, 180 meter-wide and 18 meter-deep

4 - Facilities

The Solid Bulk Terminal (TGS) is composed by 2 quays:

-Quay I has 2 berths, one for exports being 153 meter-long and another for imports being 202 meter-long;

- Quay II with only one berth, 210 meter-long, serves, in a complementary manner, to quay I in the imports of solid bulk.

Both are 12 meter-deep (39.37 feet).

TGS has on quay I, loading and unloading systems for solid bulk composed by 1 ship unloader with 970 t/h capacity and 2 ship loaders with 1200 t/h and 700 t/h capacity. This equipment is connected to the respective storage areas by means of conveyor belt systems.

F2- Aerial View of Solid, Liquid and Gas Bulk Terminals



The Liquid Bulk Terminal (TGL) consists of a 220 meter-long quay and 12 meters (39.37 feet) deep with mooring on both sides (2 berths), through which the handling of the following products is made: Caustic soda, dichloroethane, EG, styrene, MTBE, benzene, etc..

The Gas Bulk Terminal (TPG) is composed by a 366 meter-long quay with one berth, where the handling of the following products occurs: Ammonium, butadiene, propene, etc.. This quay serves large ships handling raw materials (naphtha) to Copene.

Aratu Port Storage: It has a yard for solid bulk with 475,000 ton static capacity, in addition to private facilities (Alcan and Cimex silos and Petrobrás/Fafen, Caraíba Metais and Magnesita warehouses). Liquid bulk and gas products are stored in tanks of companies Tequimar, Brasterminais, Tegal and Petrobrás/Fafen.

5 - Facilities

Cargo handling at the port is carried out by 13 private Port Operators. Liquid and gas bulk are solely handled by Tequimar and Brasterminais operators. The port operates 24 hours a day.

6 – Foreign Trade Cargo Handling at Aratu Port

Aratu Port is planning investments for modernization and capacity increase, since the loading and unloading equipment, mainly in the Solid Bulk terminal, to increase the time of permanence of ships at the Port.

Years	Solid Bulk		Liquids		Gases		Total		Thousand Tonnes
	Import	Exp	Import	Exp	Import	Exp	Import	Exp	Total
2012	1694	114	2196	1242	-	388	3890	1744	5634
2011	1719	62	1966	902	-	411	3685	1375	5060
2010	1463	239	2383	1205	-	519	3846	1963	5809

7 – Main Goods handled at Aratu Port:

7.1 – Solid Bulk: Copper concentrate, sulfur, fertilizers, manganese ore, magnesite.

7.2 – Liquid Bulk: Naphtha, methanol, caustic soda, dichloroethane, benzene, styrene, gasoline, diesel, ethanol.

7.3 – Gas Products: Butadiene, propene, ammonium, butene, MVC

8 – Aratu Port Expansion

Aratú Port handles mainly raw materials and industrial products and has great potential for growth.

State governments, the Federal Government, industries, railways and shipping companies should direct investments in its modernization and capacity expansion. The Port shall receive funds from the federal and state government, and investments from private companies.

Below, the following projects for Aratu Port until 2017:

- Dredging for deepening in 15 meters - completed
- Modernization of existing solid bulk terminal - completed
- Building of new solid bulk terminal, focused on ore exports (iron) by extension of Quay II;
- Expansion of liquid bulk terminal, with building of two new mooring berths and expansion of tanks;
- Modernization and reactivation of railroad grids of FCA railways;
- Duplication of road access to improve road accessibility.
- Building of a classification yard and truck parking lot.

Codeba – Companhia Docas do Estado da Bahia provides the capture of additional cargo such as ethanol, biodiesel, ore (Iron and Manganese), vegetable oils, farming bulk and vehicles.

9 – Aratu Port – Iron Ore Terminal (Destination)

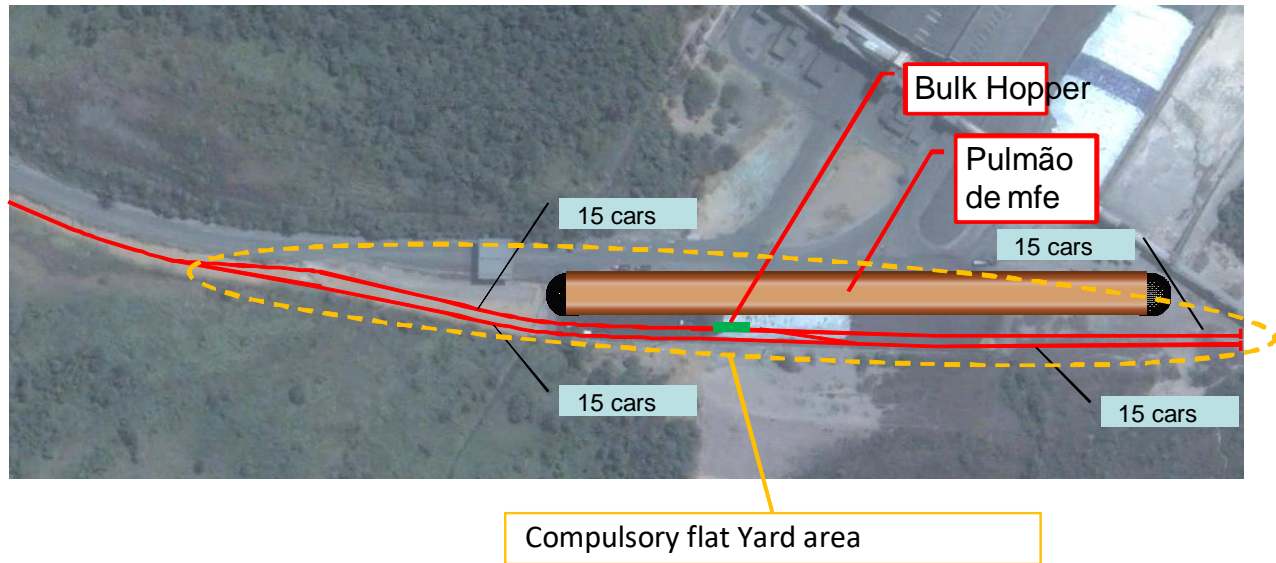
The scope of the study to implement the Iron Ore Terminal is being developed by FCA and Codeba – Companhia Docas do Estado da Bahia. This terminal will provide the railroad unloading and further loading to ships.

Layout for the iron ore unloading terminal at Aratu Port

Step I - Installation of Bulk Hoppers and deviations:

- Layout in line with 1000 meter long and branch to be reactivated with approximately 1800 meters;
- Installation of a bulk hopper for unloading;

- Use of area parallel to the lines for ore storage;
- This layout can be used upon the implementation of the 2nd step in pear;
- Branch until the unloading lines in ascending ramp.



Step II – Installation of Pear + bulk hopper

- Layout in pear with 1500 meter long and branch to be reactivated with approximately 1800 meters (branch already recovered in 1st step);
- Installation of one car dumper or bulk hoppers for the Customer flow – stock segregation;
- Unloading of trains in anti-clockwise direction at the pear;
- Existence of at least one passage level - provide for the construction of an underpass or overpass;
- Use of fertilizers handling area of the port for ore storage;
- Low point of the belt conveyer that goes from the warehouse to the quay;
- Conveyor belt systems for Santa Fé ore handling (approx. 1200 meters - estimated);
- Branch until pear in ascending ramp (unloading starts at the top and goes downwards).



Porto de Aratu – terminal de destino

